AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
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2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
46	See Block 16C		

6. ISSUED BY CODE

John F. Kennedy Space Center, NASA
Procurement Office – ODIN – OP-OS-ODIN
Kennedy Space Center, FL 32899

7. ADMINISTERED BY *(If other than Item 6)* CODE

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State, and Zip Code)*

OAO Corporation
7375 Executive Place
Seabrook, MD 20706-2278

CODE FACILITY CODE

(x)

9A. AMENDMENT OF SOLICITATION NO.

9B. DATED *(SEE ITEM 11)*

10A. MODIFICATION OF CONTRACT/ORDER NO.

NAS5-98144/NNK05OA12D

10B. DATED *(SEE ITEM 13)*

December 1, 2004

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[ ] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers [ ] is extended, [ ] is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning ____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
X	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: **NAS5-98144 Contract Clause C.7 Technology Refreshment Process and FAR Clause 52.212-4 Contract Terms and Conditions-Commercial Items, (c) Changes**
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor [ ] is not, [X] is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

Stennis Space Center --- *ODIN SERVICES*

Technology Infrastructures: Incorporation of 9 Infrastructure Upgrades Previously Approved Utilizing Fast Track Process

Change in Delivery Order Price: $110,818.44 (INCREASE)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*	16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*
Keith L. Spencer Sr. Contracts Manager	Karen L. Voorwinden Contracting Officer

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)	12/6/2005	BY *(Signature of Contracting Officer)*	12/7/05

1. In accordance with Master Contract NAS5-98144, C.7, Technology Refreshment Process, the technology refreshment services referenced below are hereby incorporated into this Delivery Order at a fixed price of $110,818.44.

FT Approval Date	SWR/Description	Amount
10/17/2005	**85FE GU52 AO** Install fiber and Cat5e wiring to support EMCS for MSS in B2102 and B2104	$ 4,757.51
11/21/2005	**85FH GV62 F0** Install Cat5e and Cat3 wiring, copper cable and fiber to support telephoens and networks in trialers at B8100 and B1100 for NAVOCEANO	$ 29,784.65
11/21/2005	**9T05 0001 00** Install new Catalyst 2950 network switch to support a Guest Network in B8306	$ 3,843.93
9/28/2005	**DB00 0565 00** Install one 12-strand fiber cable from room 123 in B3204 to room 308 in B3203 for NDBC to support their networks and install two Cat5e wires to eight locations in B3204 to support NDBC computers	$ 18,540.05
11/10/2005	**J1R3 70DM 01** Install fiber cable at B4120 and B4122 to support Rocketdyne networks	$ 4,897.88
11/15/2005	**KT01 6NTG 01** Rev 01 Install GFE fiber cable to restore service to B7001	$ 14,297.40
9/28/2005	**NJ00 L5AR 00** Install Cat5e wiring in room 2235 of B1002 to support networks for NAVOCEANO	$ 12,974.57
11/9/2005	**PL00 0510 00** Install cable from B9800 pedestal to trailer and install jack for EPA/ECL	$ 545.29
9/13/2005	**PTLE 7S98 NU** Remove Cat3 network and telephone wiring in end and middle of B8301 and install Cat6 network wiring and Cat3 telephone wiring	$ 21,177.16
	TOTAL	**$ 110,818.44**

2. SWR 85FE GU52 AO

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and

equipment installation and materials necessary to install fiber and Cat5e wiring to support EMCS for MSS in B2102 and B2104 as outlined in OAO proposal dated August 17, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

(1) Install (1) 6mm/6sm fiber cable from room 114A-A in B2104 out thru conduit placed by other contractor to EMCS box in B2102 by other contractor.
(2) Install (2) Cat5e wires from room 114A-A to room 115 in B2104 and put in EMCS box.
(3) Install (2) LIU panels in EMCS box installed by other contractor in B2102.
(4) Terminate one end of fiber into ST connectors and place in existing LGX panel in room 114A-A in B2104 and terminate the other end into ST connectors and place in LIU panels that were installed in item (3) above.
(5) Terminate one end of the Cat5e wires on 110 wiring blocks in room 114A-A and the other end in (2) Cat5e jacks in the EMCS box in room 115 in B2104.
(6) Test and label fiber and Cat5e wiring.
(7) Provide ODIN with a redline drawing showing the route taken with the fiber from B2104 to B2102.
(8) Provide ODIN with a redline drawing showing the jack numbers and location in B2104.

b. The contractor shall provide the following material:

(1) 500 feet of Corning 6SM/6MM fiber cable (373-Cor-HyBD-6/6)
(2) 150 feet of plenum Belden Data Twist Five (CMP-00424BEL-5U-06)
(3) 24 each cool cure consumables (142172)
(4) 12 each P3020A-C-125 singlemode ST connectors (157475)
(5) 12 each C3000A-2 singlemode ST couplers (105263)
(6) 12 each P2020C-C-125 multimode ST connectors (170290)
(7) 12 each C2000A multimode ST couplers (088987)
(8) 2 each Avaya 100A LIU's (146050)
(9) 2 each Avaya 10A panels (088980)
(10) 2 each Ortronics blanks (147=8027)
(11) 2 each Milan MIL-RC3113US (237954)
(12) 2 each 1-meter multimode fiber jumper (152011)
(13) 1 each Ortronics singlegang faceplate (148025)
(14) 1 each Ortronics dual T568A/B Cat5e jack (248945)
(15) 1 each Panduit outlet box (201336)

c. Schedule: The completion of this effort shall be 8 weeks after receipt of Fast Track approval (October 17, 2005).

3. SWR 85FH GV62 F0

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install Cat5e and Cat3 wiring, copper cable and fiber to support telephones and networks in trailers at B8100 and B1100 for

NAVOCEANO as outlined in OAO proposal dated November 18, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

BOE-TEL will work:

B8100:

(1) Core bore handhole in front of B8120.
(2) Dig trench from handhole in front of B8120 to trailer.
(3) Install (1) sheet of ¾" x 4' x 8' plywood to hold equipment.
(4) Install (1) Great Lakes wall mount cabinet on plywood.
(5) Install (1) 600B fiber shelf equipped with a 24-ports in wall mount cabinet.
(6) Install (1) 24-port Cat5e patch panel in wall mount cabinet.
(7) Install (1) 1880ECA1-50 cable protector on plywood.
(8) Install (1) 25-pair copper cable from room 111A out thru existing cable tray and thru existing duct bank to hand hole located on the west end of B8120 and place in trench that was dug in item (2) above to trailer.
(9) Terminate 25-pair copper cable into 1880ECA1-50 cable protector installed in item (7) above.
(10) Install (1) 4-strand multimode fiber cable at the same time with the 25-pair copper cable from room 111A out to trailer and terminate in ST connectors and place one end on the 600B fiber shelf in wall mount cabinet. Place the other end in existing LGX panel in room 101 in B8100.
(11) Install (1) Cat5e wire and (1) single jack to (20) locations to be used for networks. Terminate on Cat5e patch panel installed in item (6) above.
(12) Install (1) Cat3 wire and (1) single jack to (20) locations to be use for telephones & fax. Terminate on new 110 wiring block.
(13) Test and label Cat5e and Cat3 and fiber.

B1100 West Trailer - Command:

(1) Install (1) sheet of ¾" x 4' x 8' plywood to hold equipment.
(2) Install (1) Great Lakes wall mount cabinet on plywood.
(3) Install (1) 600B fiber shelf equipped with a 24-ports in wall mount cabinet.
(4) Install (1) 24-port Cat5e patch panel in wall mount cabinet.
(5) Install (1) 1880ECA1-50 cable protector on plywood.
(6) Install (1) 100-pair copper cable from room 245 out thru window and lay on roof to the area where the electrical comes out of B1100. Attach to the conduit that holds the big light. Then place cable aerial following the electrical lines to the trailer.
(7) Install and terminate a 25-pair copper cable into 1880ECA1-50 cable protector installed in item (5) above. Make 25-pair splice under trailer to 100-pair copper cable.
(8) Install (1) 4-strand singlemode fiber cable from room 194H out to where 25-pair copper cable leaves B1100 and goes to trailer. Terminate in ST connectors and place one end on the 600B fiber shelf in wall mount cabinet. Place the other end in existing LGX panel in room 194H in B1100.

B1100 North Trailer - OPS:

(1) Install (1) sheet of ¾" x 4' x 8' plywood to hold equipment.
(2) Install (1) Great Lakes wall mount cabinet on plywood.
(3) Install (1) 600B fiber shelf equipped with a 24-ports in wall mount cabinet.
(4) Install (1) 24-port Cat5e patch panel in wall mount cabinet.
(5) Install (1) 1880ECA1-50 cable protector on plywood.

(6) Install (1) 25-pair copper cable from B1100 West Trailer to B1100 North Trailer and terminate in 1880ECA1-50 cable protector installed in item (5) above. Make 25-pair splice under B1100 West Trailer to 100-pair copper cable.
(7) Install (1) 4-strand multimode fiber cable from 600B panel in wall mount cabinet in B1100 West Trailer to B1100 North Trailer using the same route that 25-pair copper cable took on the power poles. Terminate in ST connectors and place one end on the 600B fiber shelf in wall mount cabinet that was installed in item (3) above. Place the other end in existing 600B panel in B1100 West Trailer.
(8) Install (1) Cat5e wire and (1) single jack to (14) locations to be used for networks. Terminate on Cat5e patch panel installed in item (4) above.
(9) Install (1) Cat3 wire and (1) single jack to (12) locations to be use for telephones. Terminate on new 110 wiring block.
(10) Test and label Cat5e and Cat3 and fiber.

B1100 South Trailer – Plans & Survey Support:
(1) Install (1) sheet of ¾" x 4' x 8' plywood to hold equipment.
(2) Install (1) Great Lakes wall mount cabinet on plywood.
(3) Install (1) 600B fiber shelf equipped with a 24-ports in wall mount cabinet.
(4) Install (1) 24-port Cat5e patch panel in wall mount cabinet.
(5) Install (1) 1880ECA1-50 cable protector on plywood.
(6) Install (1) 25-pair copper cable from splice under B1100 West Trailer and place on existing power poles between trailers. Make 25-pair splice under B1100 West Trailer to 100-pair copper cable. Terminate in 1880ECA1-50 cable protector installed in item (5) above.
(7) Install (1) 4-strand multimode fiber cable from 600B panel in wall mount cabinet in B1100 West Trailer to B1100 South Trailer using the same route that 25-pair copper cable took on the power poles. Terminate in ST connectors and place one end on the 600B fiber shelf in wall mount cabinet that was installed in item (3) above. Place the other end in existing 600B panel in B1100 West Trailer.
(8) Install (1) Cat5e wire and (1) single jack to (12) locations to be used for networks. Terminate on Cat5e patch panel installed in item (4) above.
(9) Install (1) Cat3 wire and (1) single jack to (10) locations to be use for telephones. Terminate on new 110 wiring block.
(10) Test and label Cat5e and Cat3 and fiber.

B1100 Room 245:
(1) Install (1) 100-pair protector on existing plywood.
(2) Terminate 100-pair aerial cable on protector.

b. The contractor shall provide the following material:

BOE-TEL will purchase:

(1) 2,500 feet of Belden Data Twist Five plenum wire (CMP
(2) 2,500 feet of Systimax Cat3 wire white (CM-00424MAXX-3U)
(3) 1,100 feet of Corning 4-strand multimode fiber cable (372-COR62.5LTD-04)
(4) 850 feet of 50-pair buried copper cable (E005024DFC)
(5) 500 feet of 100-pair aerial copper cable (E-010024AACF)
(6) 250 feet of Corning 4-strand singlemode fiber cable (372-COR8.3LTD-04)
(7) 250 each Circa protector module 3B1E (215690)
(8) 250 each Circa protector module 4B1E (220870)
(9) 150 feet of 25-pair aerial copper cable (E002524AACF)
(10) 40 each 14-feet Cat5e patch cords (MM14-AX5-06) blue

(11) 40 each Ortronics faceplate (148025)
(12) 40 each Ortronics single T568A/B Cat5e jack (248941)
(13) 40 each 3-feet Cat5e patch cord (MM03-AX5-06) blur
(14) 38 each Ortronics USOC 1-port jack (149326)
(15) 32 each cool cure consumables (142172)
(16) 25 each Caddy clips (157703)
(17) 24 each P2020C-125 multimode ST couplers (170290)
(18) 24 each C2000A-2 multimode ST couplers (088987)
(19) 8 each square nut (003927)
(20) 8 each square washer (004149)
(21) 8 each P3020A-C-125 singlemode ST connectors (157475)
(22) 8 each C3000A-2 singlemode ST couplers (105263)
(23) 6 each thimbleye nuts (003904)
(24) 6 each Mclean 3/8" strandvise (003296)
(25) 6 each 14" thru bolts (003813)
(26) 5 each Systimax 110C-4 connectors (073039)
(27) 4 each Ortronics 24-port Cat5e patch panel (248950)
(28) 4 each Avaya 600B trough (192718)
(29) 4 each Avaya 600B fiber shelf (177260)
(30) 4 each Avaya 600B cover plate (179391)
(31) 4 each Avaya 600B 24-port panel (179380)
(32) 4 each Great Lakes rack mount power strip (7219) (131905)
(33) 4 each ¾" x 4' x 8' sheet of plywood
(34) 4 each Great Lakes wall mount cabinet (248809)
(35) 4 each Great Lakes fan assembly (191088)
(36) 3 each 3M splice modules filled (237384)
(37) 3 each Circa 1880ECA1 25-pair protector (241548)
(38) 2 packs of Premier black tie wraps (739308)
(39) 2 each Circa 1880ECA1 50-pair protector (226573)
(40) 1 each 20B1 splice closures (096336)
(41) 1 each B sealing tape (113037)
(42) 1 each Circa 1880ECA1 100-pair protector (220873)

c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (November 21, 2005).

4. SWR 9T05 0001 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install new Catalyst 2950 network switch to support a Guest Network in B8306 as outlined in OAO proposal dated November 18, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

(1) Install one (1) new Catalyst 2950-24 24 port 10/100 switch in building 8306
(2) Punch down 24 Cat5 line cord for the ports of the new switch in 8306.
(3) Update databases
(4) Update drawings

(5) Update Ehealth

b. The contractor shall provide the following material:

(1) 24 each 10 feet Cat5e solid copper cables (T3A3A-BNCZ-06-10)
(2) 3 each 8x5xNBD SVC, C2950: 24-port 10/100) CON-SNT-C2950-24)
(3) 1 each Cisco Catalyst 2950-24 (WS-C2950C-24)
(4) 1 each Milan UTP to Fiber SC SMF converter standalone (MIL-RC3113-15US)
(5) 1 each Milan UTP to Fiber SC SMF converter in chassis (MIL-C2413-15)
(6) 1 each 5 meter ST-SC single mode fiber jumper (152039)
(7) 1 each 3 meter ST-ST single mode fiber jumper (151988)
(8) 1 each 2 meter ST-SC single mode fiber jumper (152037)

c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (November 21, 2005).

5. SWR DB00 0565 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install one 12-strand fiber cable from room 123 in B3204 to room 308 in B3203 for NDBC to support their networks and install two Cat5e wires to eight locations in B3204 to support NDBC computers as outlined in OAO proposal dated August 19, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

B3204 to B3203

(1) Install (1) 12-strand singlemode fiber cable from room 123 in B3204 thru existing duct bank to room 308 in B3203.

B3204

(1) Install (1) ¾" x 4' x 8' sheet of plywood on wall in room 123 to hold wall mount cabinet.
(2) Install (2) Systimax LIU's in room 123 of B3204 and install (2) Systimax 10A panels equipped with (12) singlemode ST couplers.
(4) Install (1) Great Lakes wall mount cabinet in room 123 of B3204.
(5) Install (1) Systimax Patchmax 24-port Cat5e patch panel in wall mount cabinet.
(6) Install (1) Great Lakes fan assembly in wall mount cabinet.
(7) Install (1) Great Lakes rack mount power strip.
(8) Install (2) Cat5e wires to (8) locations and terminate on (2) Cat5e jacks at (8) locations on one end and on the 24-port Cat5e patch panel in the wall mount rack.
(9) Install Cat5e jacks in (8) faceplates.
(10) Terminate fiber into singlemode ST connectors at B3204 and place in LIU's.
(11) Test and label fiber and Cat5e wiring.

B3203

(1) Install singlemode ST couplers in existing LGX panel in room 308.

(2) Terminate fiber into singlemode ST connectors at B3203 and place in existing LGX panel in room 308.
(3) Test and label fiber.

b. The contractor shall provide the following material:

(1) 5,900 feet of Corning 12-strand singlemode fiber cable (372-COR8.3-LTD-12)
(2) 2,000 feet of Belden Data Twist Five plenum wire (CMP-00424BEL-5U-06)
(3) 60 each velcro ties
(4) 30 each caddy J-hooks (184873)
(5) 24 each cool cure consumables (142172)
(6) 24 each P3020A-C-125 singlemode ST connectors (157475)
(7) 24 each C3000A-2 singlemode ST couplers (105263)
(8) 16 each Ortronics Blanks (148027)
(9) 12 each 14 feet of Cat5e patch cord blue (MM14-AX5-06)
(10) 12 each 3 feet of Cat5e patch cord blue (MM03-AX5-06)
(11) 10 each aluminum D rings size D (073939)
(12) 8 each Ortronics T568A/B Cat5e 2-port jacks (248945)
(13) 8 each Ortronics singlegang faceplate (148025)
(14) 8 each Panduit outlet boxes (201336)
(15) 2 packs of Premier black cable ties (739308)
(16) 2 each Systimax 100A LIU's (146050)
(17) 2 each Systimax 10A panels (088980)
(18) 2 each MIL-RC3113-15-US 10/100 Base-FX SC SMF 15KM (266752)
(19) 2 each 1-meter singlemode fiber jumper ST/SC (152036)
(20) 1 each ¾" x 4' x 8' sheet of plywood
(21) 1 each Great Lakes wall mount cabinet (248809)
(22) 1 each Great Lakes fan assembly (191088)
(23) 1 each Great Lakes rack mount power strip (131905)
(24) 1 each Ortronics 24-port Cat5e patch panel (248950)

c. Schedule: The completion of this effort shall be 12 weeks after receipt of Fast Track approval (September 28, 2005).

6. SWR J1R3 70DM 01

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install fiber cable at B4120 and B4122 to support Rocketdyne networks as outlined in OAO proposal dated November 9, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

(1) Install (1) 12-strand singlemode fiber cable from room 109 up to the room 606 and put into bay 40 in B4120.
(2) Install (1) 12-strand singlemode fiber cable from room 307 up to the room 601 and put into bay 40 in B4122.
(3) Install (1) low profile surface mount box in room 606 in B4120 and room 601 in B4122.

(4) Terminate all fiber into ST connectors and place in existing LIU in room 109 in B4120.
(5) Terminate all fiber into ST connectors and place in existing LIU in room 307 in B4122.
(6) Test and label fiber cables at both buildings.
(7) Provide ODIN with redline drawings showing hoe fiber cable runs within buildings.
(8) Provide ODIN with OTDR shots so that ODIN can give Rocketdyne a copy.

b. The contractor shall provide the following material:

(1) 300 feet of Corning MIC 12-strand singlemode fiber cable (370-948-SMODE-12)
(2) 280 feet of ½" flex aluminum conduit
(3) 48 each cool cure consumables (142172)
(4) 48 each P3020A-C-125 singlemode ST connectors (157475)
(5) 48 each C3000A-2 singlemode ST couplers (105263)
(6) 2 each Systimax M40A1 outlet box (188949)
(7) 2 each Systimax M40ST8 coupling panel (175445)
(8) 1 pack of Premier black cable ties (739308)

c. Schedule: The completion of this effort shall be 6 weeks after receipt of Fast Track approval (November 10, 2005).

7. SWR KT01 6NTG 01 Rev 01

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install GFE fiber cable to restore temporary service to B7001 as outlined in OAO proposal dated November 14, 2005. Installation shall include testing and labeling.

a. The contractor shall be responsible for performance of the following tasks:

BOE-TEL will work:

(1) Install (1) ¼" galvanized steel strand on the existing power pole route that runs from B8100 to B7001.
(2) Install (1) 14" thru bolt, (1) cable suspension clamp, (2) square nuts, (2) square washers, (2) lashing wire clamps on each of the poles between the two buildings.
(3) Install (1) each thimbleye nut and (1) guy hook at the poles that will need a guy wire.
(4) Test fiber from B8100 to B7001 to see where damaged.
(5) Install GFE multimode and singlemode fiber cables on new strand from where fiber was cut by falling trees up to B7001.
(6) Install strand & GFE multimode and singlemode fiber cables over both entrances to the Army Ammo and across Trent Lott Parkway at the north gate.
(7) Remove existing fiber into B7001 and pull temporary fiber along with rope into conduit that comes up in communications room (103).
(8) Terminate fiber into ST connectors and place in existing fiber panels in communications room (103) in B7001.
(9) Make Fusion splice where existing fiber cables are broken to new GFE fiber cables. Make another fusion splice where the 1st GFE fiber cables end to new GFE fiber cables that continue to B7001.
(10) Test and label the new GFE fiber cables once they have been installed.

ODIN will work:

(1) Test network hub to make sure that it is backup and working.
(2) Test computer to make sure that it is backup and working.
(3) Test telephone FDLM to make sure that it is back up and working.
(4) Test telephones to make sure they are working.
(5) Test video receiver to make sure that is back up and working.
(6) Test T1 circuits that go to training room to make sure they are back up and running.
(7) Will cutover analog circuits from existing copper cable that used to work on copper cable from B1201 through Army Ammo that is down in several places and is cut at the north gate to the GFE fiber that was installed by BOE-TEL.
(8) Use existing FXN cards that are in the channel banks at B1201 and B7001 to connect the analog lines.

b. The contractor shall provide the following material:

BOE-TEL will purchase

(1) 13,000 feet of stainless steel lashing wire (003610)
(2) 9,400 feet ¼ inch galvanized steel strand (104975)
(3) 60 each square nut (003927)
(4) 60 each square washer (004149)
(5) 60 each lashing wire clamps (003230)
(6) 30 each thru bolts 14 inch (003813)
(7) 30 each suspension clamps (003258)
(8) 24 each cool cure consumables (142172)
(9) 12 each P3020-C-125 singlemode ST connector (157475)
(10) 12 each P2020-C-125 multimode ST connector (170290)
(11 12 each square nut (003927)
(12) 12 each Mclean ¼ strandvise (003282)
(13) 8 each lashing wire clamps (003230)
(14) 6 each square washer (004149)
(15) 6 each Mclean 3/8” strandvise (003296)
(16) 6 each thimbleye nut (003904)
(17) 6 each thru bolts 14 inch (003813)
(18) 5 each thimbleye nut (003904)
(19) 5 each guy hook (002755)
(20) 2 pack Premier black cable ties (739308)
(21) 1 pack Corning Fusion splice protector (161239) Pk/50

c. Schedule: The completion of this effort shall be 2 weeks after receipt of Fast Track approval (November 15,2005).

8. SWR NJ00 5LAR 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install Cat5e wiring in room 2235 of B1002 to support networks for NAVOCEANO as outlined in OAO proposal dated July 25, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

BOE-TEL will work:
Classified and Unclassified network drops:

(1) Install (1) new TYCO/AMP floor work station at ASW left, ASW right, Surge left, Surge right and (2) in CDO areas to mount jacks. Cut carpet to fit on the door of each floor work station.
(2) Install Panduit raceway from computer floor in room 2235 up to the existing Panduit raceway that is running under drop ceiling back to room 2223 and install classified drops.
(3) Install (2) Classified Cat5e red wires from ASW left area in room 2235 for scientific use and run under computer floor back to room 2223 of B1002.
(4) Install (1) Classified Cat5e red wire from ASW left area in room 2235 for NMCI use and run under computer floor back to room 2223 of B1002.
(5) Install (3) Classified Cat5e red wires from ASW right area in room 2235 for scientific use and run under computer floor back to room 2223 of B1002.
(6) Install (1) Classified Cat5e red wire from Surge left area in room 2235 for scientific use and run under computer floor back to room 2223 of B1002.
(7) Install (1) Classified Cat5e red wire from Surge left area in room 2235 for NMCI use and run under computer floor back to room 2223 of B1002.
(8) Install (2) Classified Cat5e red wires from Surge right area in room 2235 for scientific use and run under computer floor back to room 2223 of B1002.
(9) Install (1) Classified Cat5e red wire from CDO area in room 2235 for scientific use and run under computer floor back to room 2223 of B1002.
(10) Install (1) Classified Cat5e red wire from CDO area in room 2235 for NMCI use and run under computer floor back to room 2223 of B1002.
(11) Install (1) Unclassified Cat5e blue wire from CDO area in room 2235 for scientific use and run under computer floor back to room 2223 of B1002.
(12) Install (1) Unclassified Cat5e blue wire from CDO area in room 2235 for NMCI use and run under computer floor back to room 2223 of B1002.
(13) Install (1) Unclassified Cat5e gray wire from CDO area in room 2235 and split into (1) digital and (1) analog circuit for scientific use and run under computer floor back to room 2224 of B1002.
(14) Install (1) Classified Cat5e red wire from MIW area in room 2235 for scientific use and run under computer floor back to room 2223 of B1002.
(15) Install (1) Classified Cat5e red wire from MIW area in room 2235 for NMCI use and run under computer floor back to room 2223 of B1002.
(16) Install (2) Classified Cat5e red wires from Glider area room 2235 for scientific use and run under computer floor back to room 2223 of B1002.
(17) Install (2) Unclassified Cat5e blue wires from Glider area in room 2235 for scientific use and run under computer floor back to room 2223 of B1002.
(18) Install (1) Unclassified Cat5e gray wire from Glider area in room 2235 and split into (1) digital and (1) analog circuit for scientific use and run under computer floor back to room 2224 of B1002.
(19) Terminate one end of the Classified red wire to new red jacks installed in room 2235 and new red jacks that will be installed into existing patch panel in room 2223 for scientific.
(20) Terminate one end of the classified red wire to new red jacks installed in room 2235 and new red jacks that will be installed into new patch panel in room 2223 for NMCI.
(21) Test and label both ends of Cat5e wire.
(22) Provide ODIN with a redline drawing showing where jacks were placed and jack numbers.

(23) Remove carpet tiles to install floor boxes and relocate floor boxes and install wiring.

BOE-TEL will work:
Classified and Unclassified RGB Cat5e wiring:

(1) Install (1) ¾" x 4' x 8' sheet of plywood behind the existing equipment cabinets in room 2236A on the Southwest wall so that the 110 jack panels can be installed. Paint to match wall.
(2) Classified RGB wiring will terminate one end of the red wire to new red jacks in room 2235 and the other end on a new Classified 110 jack panel that will be installed on the Southwest wall behind existing equipment cabinets in room 2236A.
(3) Unclassified RGB wiring will terminate one end of the blue wire to new blue jacks in room 2235 and the other end on a new Unclassified 110 jack panel that will be installed on the Southwest wall behind existing equipment cabinets in room 2236A.
(4) Install (2) Classified Cat5e red wires from ASW left area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(5) Install (1) Unclassified Cat5e blue wire from ASW left area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(6) Install (2) Classified Cat5e red wires from ASW right area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(7) Install (1) Unclassified Cat5e blue wire from ASW right area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(8) Install (2) Classified Cat5e red wires from Surge left area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(9) Install (1) Unclassified Cat5e blue wire from Surge left area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(10) Install (2) Classified Cat5e red wires from Surge right area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(11) Install (1) Unclassified Cat5e blue wire from Surge right area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(12) Install (3) Classified Cat5e red wires from CDO area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(13) Install (3) Unclassified Cat5e blue wire from CDO area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(14) Install (1) Classified Cat5e red wires from MIW area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(15) Install (1) Unclassified Cat5e blue wire from MIW area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.

(16) Install (1) Classified Cat5e red wires from Glider area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(17) Install (1) Unclassified Cat5e blue wire from Glider area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(18) Install (3) Classified Cat5e red wires from Control Room area in room 2237 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.
(19) Install (3) Unclassified Cat5e blue wire from Control Room area in room 2237 run under computer floor back to room 2236A of B1002 to be used to extend RGB for monitor.

BOE-TEL will work:
USWDSS Cat5e wiring:
(1) Install (1) ¾" x 4' x 8' sheet of plywood behind the existing equipment cabinets in room 2236A on the Northwest wall so that the 110 jack panel can be installed. Paint to match wall.
(2) USWDSS Classified wiring will terminate one end of the red wire to new red jacks in room 2235 and the other end on a new USWDSS 110 jack panel that will be installed on the Northwest wall behind existing equipment cabinets in room 2236A.
(3) Install (1) Classified Cat5e red wires from ASW left area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend USWDSSR.
(4) Install (1) Classified Cat5e red wires from ASW right area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend USWDSSR.
(5) Install (1) Classified Cat5e red wires from CDO area in room 2235 run under computer floor back to room 2236A of B1002 to be used to extend USWDSSR.
(6) Install (1) Classified Cat5e red wires from Control room in room 2237 run under computer floor back to room 2236A of B1002 to be used to extend USWDSSR.

b. The contractor shall provide the following material:

BOE-TEL will purchase:
(1) 6,000 feet Belden Data Twist Five (CMP-00424BEL-5U-03) Red
(2) 1,000 feet of Belden Data Twist Five (CMP-00424BEL-5U-06) Blue
(3) 1,000 feet of Belden Data Twist Five (CMP-00424BEL-5U-09) Gray
(4) 49 each Panduit Minicom Cat5e jack (212940)
(5) 18 each Panduit Minicom 106 jack frame (190939)
(6) 18 each TYCO/AMP workstation mod faceplate kit (129221)
(7) 7 each Panduit Minicom Cat5e jack (212941)
(8) 6 each TYCO/AMP floor workstation mod (144397)
(9) 3 each Systimax 12-port jack panel (200665)
(10) 3 each Panduit Minicom Cat5e jack (212936)
(11) 3 each Panduit Minicom executive faceplate (174002)
(12) 2 each Panduit T-70 raceway base (199884)
(13) 2 each Panduit T-70 raceway cover (199902)
(14) 2 each Panduit T-70 raceway right angle (186672)
(15) 2 each Panduit LD5 raceway (131156)
(16) 2 each Panduit outlet boxes (201336)
(17) 1 each Systimax 12-port jack panel (200665)
(18) 1 each ¾" x 4' x 8' sheet of plywood

c. Schedule: The completion of this effort shall be 6 weeks after receipt of Fast Track approval (September 28, 2005).

9. SWR PL00 0510 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install cable from B9800 pedestal to trailer and install jack for EPA/ECL as outlined in OAO proposal dated October 26, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

BOE-TEL will work:

(1) Install new flush mount jack into panel in trailer.
(2) Install new surface mount jack in panel in trailer.
(3) Install (1) 6-pair protector on trailer and ground to an approved ground.
(4) Place 6-pair copper cable on ground with power cable from trailer to pedestal on the east side of B9800.
(5) Terminate 6-pair cable on 6-pair protector at trailer and pedestal behind B9800.
(6) Test and label 6-pair cable and jack.

ODIN will work:

(1) Place cross connects from PointSpan to LPOTS card in B1201.
(2) Place cross connects from RPOTS card to cable feeding B9801 pedestal.
(3) Test jack to see if working.

b. The contractor shall provide the following material:

BOE-TEL will purchase:

(1) 150 feet of 6-pair buried copper cable (E-000624DFC)
(2) 10 feet of ground wire
(3) 10 feet of 4-pair Cat3 PVC wire (CM-00424BBG-3U)
(4) 1 each 6-pair station protector (177930)
(5) 1 each surface mount jack (503788A)
(6) 1 pack Premier black cable ties (739308)

c. Schedule: The completion of this effort shall be 2 weeks after receipt of Fast Track approval (November 9, 2005).

10. SWR PTLE 7S98 NU

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to remove Cat3 network and telephone wiring in end and middle of B8301 and install Cat6 network wiring and Cat3 telephone wiring as

outlined in OAO proposal dated August 15, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

BOE-TEL will work East end:

(1) Remove all old wiring from conduits and attach a pull string to pull new wiring into conduits.
(2) Relocate existing copper protector from west wall above air conditioner unit to the south west wall and relocate 25-pair copper cables that go to UMC and Adtran down below AC unit.
(3) Install (3) Cat6 Visipatch panels on west wall of room 115 above air conditioner unit.
(4) Install (12) Visipatch distribution rings between the Visipatch panels.
(5) Install (2) Cat6 wires to (22) locations on the east end of B8301 and terminate one end into Cat6 jacks and terminate the other end on Visipatch panels installed in item (3) above.
(6) Install (1) new Cat3 wire to (22) locations on the east end of B8301 and terminate one end into (2) Cat3 jacks and the other end on existing 110 wiring blocks.
(7) Install (144) Cat6 solid copper cables from (1) Visipatch panel to Cisco switch.
(8) Install Panduit outlet boxes in cubicles that are out in the middle of the floor to house the new Cat3 and Cat6 jacks.
(9) Install Caddy J-hooks in ceiling to hold wiring back to communications room.
(10) Test and label Cat3 and Cat6 wiring at both ends.
(11) Provide ODIN redline drawing showing jack numbers and locations so that draftsman can update drawings.

BOE-TEL will work Middle:

(1) Remove all old wiring from conduits and attach a pull string to pull new wiring into conduits.
(2) Install (2) Cat6 wires to (13) locations in the middle section of B8301 and terminate one end into Cat6 jacks and terminate the other end on existing Visipatch panels.
(3) Install (1) new Cat3 wire to (13) locations in the middle section of B8301 and terminate one end into (2) Cat3 jacks and the other end on existing 110 wiring blocks.
(4) Install Panduit outlet boxes in cubicles that are out in the middle of the floor to house the new Cat3 and Cat6 jacks.
(5) Install Caddy J-hooks in ceiling to hold wiring back to communications room.
(6) Test and label Cat3 and Cat6 wiring at both ends.
(7) Provide ODIN redline drawing showing jack numbers and locations so that draftsman can update drawings.

ODIN will work:

(1) Connect Cat6 solid copper cables to network switch and remove Cat5 solid copper cables.
(2) Place new cross connects for network and telephones when we receive OWEB orders.
(3) Draftsman will update building drawings showing new network and telephone jacks and new locations.

b. The contractor shall provide the following material:

BOE-TEL will purchase:

(1) 13,000 feet of Avaya 2071 level 7 plenum wire (CMP-00424AVA-7U-04) green
(2) 7,000 feet of Avaya Cat3 plenum white wire (CMP-00424max-3U)
(3) 144 each Avaya level 7 solid copper cords (108793-969-04-25)
(4) 70 each Avaya MGS400 T568A/B Cat6 jacks (246746) Green
(5) 70 each Avaya M1BH Cat3 jack (240707) gray
(6) 65 each Caddy J-hooks (184873)
(7) 50 each Velcro ties
(8) 50 each Systimax 14 feet Cat6 patch cords green (MM14-AV7E-04)
(9) 21 each Avaya M28L-262 double-gang faceplate (222685) white
(10) 14 each Avaya M14L-262 single-gang faceplate (197613)
(11) 14 each Panduit outlet boxes (201336)
(12) 12 each Avaya Visipatch distribution rings (532421)
(13) 3 each Avaya 336-pair Visipatch panel (532210)
(14) 3 each Avaya Visipatch horizontal duct (539650)

c. Schedule: The completion of this effort shall be 4-5 weeks after receipt of Fast Track approval (September 13, 2005).

11. Part II "Contract Administration Data", Item 4, will be revised as indicated below to reflect the increase of $110.818.44 for these infrastructure upgrades when incorporated into the delivery order:

Month/Mod	Description		Monthly Total		Actual Total To Date
Nov-05	Ordered Seats and Services	$	401,025.69	$	4,769,403.30
Oct-05	Catalog Services	$	3,292.44	$	151,129.46
Oct-05	Specialized Services	$	101,019.36	$	195,386.09
	Infrastructure upgrades	$	-	$	1,123,304.72
	Fast Track Mods Authorized (but not incorporated by Mod)	$	110,818.44	$	110,818.44
	sub-total of ordered services	$	616,155.93	$	6,350,042.01
	Less facility credit	$	-	$	-
	Less outage credit	$	-	$	-
	Less retainage not earned	$	-	$	(419.51)
	TOTAL	$	616,155.93	$	6,349,622.50

12. Payment Schedule: Invoicing and Payment for this modification will be made in accordance with Master Contract NAS5-98144, FAR 52.212-4: Commercial Items (May 1997) (Modified).

13. Reporting requirements: The contractor shall provide monthly status reports to the SSC DOCOTR, with a copy to the DOCO. These reports shall include, as a minimum, installation progress, and potential problem areas.

14. In consideration of the modification agreed to herein as complete equitable adjustment for the changes set forth, the Contractor hereby releases the Government from any and all

liability under this delivery order for further equitable adjustments attributable to such facts or circumstances giving rise to these changes.

15. All other terms and conditions of this Delivery Order remain unchanged and in full force and effect.